DETAILED ACTION

Claim Objections

Claim 1 is objected to because of the following informalities: the claimed phrase "characterized in that" should be changed to the term "wherein."

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamoto et al. (JP 56-118751).

The applicants claim: A thixotropy-imparting agent comprising micro-sized chain clay mineral particles having the following properties: two thixotropic indexes (TI)

obtained by dispersing the chain clay mineral particles in dispersing mediums, such as diethylhexyl phthalate (DOP) and water, a bulk density, and a particle size distribution.

With respect to claims 1 and 4-5, Iwamoto et al. disclose employing a thixotropy of hormite group minerals, including attapulgite and sepiolite, useful for a variety of different industrial purposes (Pages 2-3). Iwamoto et al. further disclose dispersing 3.0% of hormite group minerals in water to obtain thixotropy ratio (thixotropy index) in the range from 4.2-8.0, which is defined by the viscosity of the dispersion solution measured at rotational speeds of 6 and 60 rpms (Page 9, Table 2). Thus, Iwamoto et al.'s holmite group minerals are also reasonably expected to have a claimed thixotropy index value at a different dispersing medium (diethylhexyl phthalate, DOP).

Iwamoto et al. do not specifically mention the claimed bulk density, and the particle (fiber) size distribution as recited in claims 1-3.

As the holmite particle (fiber) sizes and bulk densities are reasonably expected to affect the thixotropy ratio (index) viscosity of the solution dispersed with such holmite particles (thickening agent), the determination of the optimum or workable holmite particle (fiber) size, distribution, and bulk density for obtaining the thixotropy ratio (index) taught by Iwamoto et al., is well within the skill of one ordinary in the art, *see MPEP § 2144.05, IIB.*

As to the properties recited in claims 6 and 7, Iwamoto et al. teach sepiolite and attapulgite, which are said to have the claimed properties.

Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamoto et al. (JP 56-118751) as applied to claims 1-7 above, and further in view of Rao et al. (US 5,591,793).

The disclosure of Iwamoto et al. is disclosed above. Iwamoto et al. do not specifically mention using thixotropy agent s an ingredient for a coating material and/or resin compositions.

However, Rao et al. teach it is desirable to have a thixotropy agent in coating and/or resin compositions containing dispersing agents and clays because the thixotropy agent exhibits superior flow leveling and sag resistance (Col. 1, lines 16-49).

Therefore, it would have been obvious to one of ordinary skill in the art to use thixoxtropy agent of Iwamoto et al. in coating and/or resin compositions to obtain its superior flow leveling and sag resistance.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamoto et al. (JP 56-118751) as applied to claims 1-7 above, and further in view of Owen (US 5,476,8).

The disclosure of Iwamoto et al. is disclosed above. Iwamoto et al. do not specifically mention using thixotropy agent as an ingredient for adhesive compositions.

However, Owen discloses using a thixotrope agent for sealer/adhesive composition containing treated clays to obtain its desirable viscosities and have sag control (Col. 7, lines 48-60).

Therefore, it would have been obvious to one of ordinary skill in the art to utilize thixotrope agent of Iwamoto et al. for sealer/adhesive compositions to obtain its desirable viscosities and have sag control.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hannah Pak whose telephone number is (571) 270-5456. The examiner can normally be reached on Monday - alternating Fridays (7:30 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ling-Siu Choi/ Hannah Pak

Primary Examiner, Art Unit 1796

Examiner
Art Unit 4171

/HP/